MONTHY COMMUNICABLE DISEASE REPORT

JUNE 2004

CONTENTS

Section I: Top Ten Reportable Diseases in Missouri as of July 3, 2004*

The following data were reported through the MISSOURI HEALTH SURVEILLANCE INFORMATION SYSTEM (MOHSIS) and the TUBERCULOSIS INFORMATION MANAGEMENT SYSTEM (TIMS). For diseases reported through MOHSIS, counts include confirmed and probable cases only, except for acute Hepatitis C that includes only confirmed cases. For tuberculosis reported through TIMS, counts include only verified cases of TB disease.

As of Report Week #26 (week ending July 3), influenza and chronic Hepatitis C were the two most common reportable diseases in Missouri; with well over one thousand reported cases each **(Table 1)**. Campylobacteriosis, salmonellosis, and giardiasis were the next most common diseases; with between two hundred and three hundred reported cases each.

Of the ten diseases with the highest number of reported cases through Report Week #26, the year-to-date case count of six significantly exceeded the 5-year median value (Table 1). These six diseases were influenza, acute and chronic Hepatitis C, acute and chronic Hepatitis B, and pertussis. 2004's year-to-date case counts for Acute Hepatitis C and pertussis were substantially higher (i.e., >500%) than the 5-year median value. [NOTE: A portion of this increase may reflect improvements in, or changes to, reporting.] Conversely, the year-to-date case count of three diseases (i.e., salmonellosis, giardiasis, and shigellosis) was significantly below the 5-year median **(Table 1)**.

***** *Data analysis in this section does not include sexually transmitted diseases. Additionally, all 2004 communicable disease data presented in this section are provisional.*

Section I: Top Ten Reportable Diseases in Missouri—Continued

Table 1. Top Ten (by Count) Reportable Diseases and/or Conditions in Missouri **– excluding sexually transmitted diseases –** as of July 3, 2004 (Report Week #26).

Top Ten Diseases/Conditions	Year-to-Date 2004	5-Year Median (1999-2003)	Percent of 5-Year Median	Crude Rate per 100,000[a]
Influenza	4,291	2,418	177%	76.69
Hepatitis C, Chronic Infection[b]	1,409	602	234%	25.18
Campylobacteriosis	275	267	103%	4.91
Salmonellosis	264	317	83%	4.72
Giardiasis	220	301	73%	3.93
Pertussis	165	32	516%	2.95
Hepatitis C, Acute Infection	140	21	667%	2.50
Hepatitis B, Acute Infection	124	75	165%	2.22
Hepatitis B, Chronic Infection[c]	91	43	212%	1.63
Shigellosis	73	182	40%	1.30

a) Crude rates calculated using 2000 U.S. Census data.

b) Prior to 2002, Hepatitis C, chronic infection was not reportable. As a result, the interpretive utility of the 5-year median value for chronic Hepatitis C is limited.

c) Hepatitis B, chronic infection did not become reportable until 2003. As a result, year-to-date data for 2003 was substituted for the 5-year median value.

Section II: In the Spotlight: Lyme-Like and other Tick-Borne Diseases

The Epidemiology of Lyme (and Lyme-Like) Disease.[1,2] Research in the eastern United States indicates that, for the most part, nymphal ticks transmit Lyme disease bacteria to humans from May to July. Feeding nymphs are rarely noticed because of their small size, and thus have ample time to feed on humans. Tick-to-human transmission of the Lyme disease bacteria usually occurs after approximately 2 or more days of feeding. Adult ticks can transmit the disease, but since they are larger and more likely to be removed from a person's body within a few hours, they are less likely than nymphs to have sufficient time to transmit the infection. Fewer cases of Lyme disease are reported in the cooler months of the year, when adult ticks are most active.

Ticks search for host animals from the tips of grasses, shrubs, and leaf litter and transfer to animals or persons that brush against vegetation. Ticks can attach to any part of the human body but often crawl to the more hidden areas to feed such as the groin or armpit and often where clothing is tight. Campers, hikers, outdoor workers, and others who frequent wooded, brushy, and grassy places are commonly exposed to ticks, and this may be important in the transmission of Lyme disease in some areas. Because new homes are often built in wooded areas, transmission of Lyme disease near homes has become an important problem in some areas of the United States. The risk of exposure to ticks is greatest in the woods and garden fringe areas of properties, but ticks may also be carried into lawns and gardens by animals.

Within days to weeks following a tick bite, 80% of patients will have a red, slowly expanding "bulls-eye" rash (called erythema migrans), accompanied by general tiredness, fever, headache, stiff neck, muscle aches, and joint pain. Antibiotic treatment for 3-4 weeks with doxycycline or amoxicillin is generally effective in early disease. Cefuroxime axetil or erythromycin can be used for persons allergic to penicillin or who cannot take tetracyclines. If untreated, some people may develop (weeks to months later) arthritis, including intermittent episodes of swelling and pain in the large joints; neurologic abnormalities, such as aseptic meningitis, facial palsy, motor and sensory nerve inflammation, and inflammation of the brain; and, rarely, cardiac problems. Later disease, particularly with objective neurologic manifestations, may require treatment with intravenous ceftriaxone or penicillin for 4 weeks or more, depending on disease severity.

1. *Department of Health and Human Services, Centers for Disease Control and Prevention > Division of Vector-Borne Infectious Diseases > Lyme Disease.*
   http://www.cdc.gov/ncidod/dvbid/lyme/index.htm
2. *Communicable Disease Investigation Reference Manual – Revised 7/03. Missouri Department of Health and Senior Services, Division of Environmental Health and Communicable Disease Prevention, Section for Communicable Disease Prevention. Jefferson City, Mo.*
   http://www.dhss.mo.gov/CDManual/CDManual.htm

Section II: Lyme-Like and other Tick-Borne Diseases-Continued

Prevention and Control

- ✓ **Avoid tick habitats:** Whenever possible, avoid entering areas that are likely to be infested with ticks, particularly in spring and summer when nymphal ticks feed. Ticks favor a moist, shaded environment, especially areas with leaf litter and low-lying vegetation in wooded, brushy or overgrown grassy habitat.

- ✓ **Use personal protection measures:** If you are going to be in areas that are tick infested, wear light-colored clothing so that ticks can be spotted more easily and removed before becoming attached. Wearing long-sleeved shirts and tucking pants into socks or boot tops may help keep ticks from reaching your skin. The risk of tick attachment can also be reduced by applying insect repellents containing DEET to clothes and exposed skin, and applying permethrin to clothes.

- ✓ **Perform a tick check and remove attached ticks:** Daily checks for ticks and promptly removing any attached tick that you find will help prevent infection. Embedded ticks should be removed using fine-tipped tweezers. DO NOT use petroleum jelly, a hot match, nail polish, or other products. Grasp the tick firmly and as closely to the skin as possible. With a steady motion, pull the tick's body away from the skin. The tick's mouthparts may remain in the skin, but do not be alarmed. The bacteria that cause Lyme disease are contained in the tick's midgut or salivary glands. Cleanse the area with an antiseptic.

- ✓ **Taking preventive antibiotics after a tick bite:** In most circumstances, treating persons who only have a tick bite is not recommended. Individuals who are bitten by a tick may wish to consult with their health care provider. Persons should promptly seek medical attention if they develop any signs or symptoms of early Lyme disease.

- ✓ **Strategies to reduce tick abundance:** The number of ticks in endemic residential areas may be reduced by removing leaf litter, brush- and wood-piles around houses and at the edges of yards, and by clearing trees and brush to admit more sunlight and reduce the amount of suitable habitat for deer, rodents, and ticks. Tick populations have also been effectively suppressed through the application of pesticides to residential properties.

Section II: Lyme-Like and other Tick-Borne Diseases-Continued

Lyme-Like and other Tick-Borne Diseases in Missouri – 2003. In 2003, there were 69 reported cases of confirmed and probable Lyme-like disease.[3] Additionally, there were 51 reported cases of confirmed and probable Rocky Mountain Spotted Fever, 32 cases of tularemia, 31 cases of ehrlichiosis HME, nine cases of ehrlichiosis HGE, and three cases of Q Fever.

For Lyme-like disease; 46.4% of the cases were male and 53.6% female. Considering race; 56.5% identified themselves as white, 1.4% as black, and the remainder did not have a race designation. Almost one-half of Lyme-like disease cases were reported in late summer/early fall (i.e., August-October), while approximately one-quarter were reported in late spring/early summer (i.e., May and June). Approximately one-fifth of cases occurred in adolescents/young adults aged 15-24 years, while over two-fifths of cases occurred in adults aged 35-54 years. The Northwest Health Region had over one-half of reported cases, while the Southeast and Southwest health regions had approximately one-sixth of reported cases each.

Table 2. Distribution of Reported Cases of Confirmed and Probable Lyme-Like Disease; by Month of Report, Age Group, and Health Region, Missouri 2003.

Month of Report	*Percent of Cases*	Age Group	*Percent of Cases*	Health Region	*Percent of Cases*
January	*1.4%*	**0-4**	*5.8%*	**Northwest**	*52.2%*
February	*1.4%*	**5-14**	*5.8%*	**Eastern**	*8.7%*
March	*1.4%*	**15-24**	*18.8%*	**Central**	*5.8%*
April	*5.8%*	**25-34**	*8.7%*	**Southeast**	*15.9%*
May	*11.6%*	**35-44**	*26.1%*	**Southwest**	*15.9%*
June	*15.9%*	**45-54**	*17.4%*	**Out-of-State**	*1.4%*
July	*5.8%*	**55-64**	*8.7%*	**Unknown**	--
August	*17.4%*	**65-74**	*4.3%*		
September	*17.4%*	**75-84**	*2.9%*		
October	*13.0%*	**85+**	--		
November	*2.9%*	**Unknown**	*1.4%*		
December	*5.8%*				

-- Indicates no reported confirmed or probable case(s) in this socio-demographic category.

For the other tick-borne diseases (i.e., ehrlichiosis HGE, ehrlichiosis HME, Q Fever, Rocky Mountain Spotted Fever, and tularemia); 69.8% of the cases were male and 30.2% female. Considering race; 81.0% identified themselves as white, 0.8% as black, and the remainder did not have a race designation. Finally, 0.8% indicated a Hispanic ethnicity. Four-fifths of other tick-borne diseases were reported from May to August, with the highest number of reported cases in July **(Table 3)**. Almost one-half of cases occurred in adults aged 45-74 years, while over one-tenth of cases occurred in children aged 5-14 years. The Northwest Health Region had one-third of reported cases, while the Northwest and Southwest health districts had approximately one-quarter of reported cases each.

3. *2003 Annual Report: Bioterrorism, Communicable Disease, and Environmental Surveillance. Office of Surveillance Disivion of Environmental Health and Communicable Disease Prevention, Missouri Department of Health and Senior Services. Jefferson City, Mo.* *http://www.dhss.mo.gov/CommunicableDisease/03Annual.pdf*

Section II: Lyme-Like and other Tick-Borne Diseases-Continued

Table 3. Combined Distribution of Reported Cases of Confirmed and Probable Ehrlichiosis HGE, Ehrlichiosis HME, Q Fever, Rocky Mountain Spotted Fever, and Tularemia; by Month of Report, Age Group, and Health Region, Missouri 2003.

Month of Report	*Percent of Cases*	Age Group	*Percent of Cases*	Health Region	*Percent of Cases*
January	*0.8%*	**0-4**	*4.8%*	**Northwest**	*27.0%*
February	*0.8%*	**5-14**	*13.5%*	**Eastern**	*7.1%*
March	--	**15-24**	*8.7%*	**Central**	*33.3%*
April	*6.3%*	**25-34**	*7.9%*	**Southeast**	*7.9%*
May	*17.3%*	**35-44**	*7.9%*	**Southwest**	*23.8%*
June	*20.5%*	**45-54**	*19.8%*	**Out-of-State**	*0.8%*
July	*24.4%*	**55-64**	*16.7%*	**Unknown**	--
August	*18.1%*	**65-74**	*11.1%*		
September	*5.5%*	**75-84**	*6.3%*		
October	*3.9%*	**85+**	*2.4%*		
November	*1.6%*	**Unknown**	*0.8%*		
December	*0.8%*				

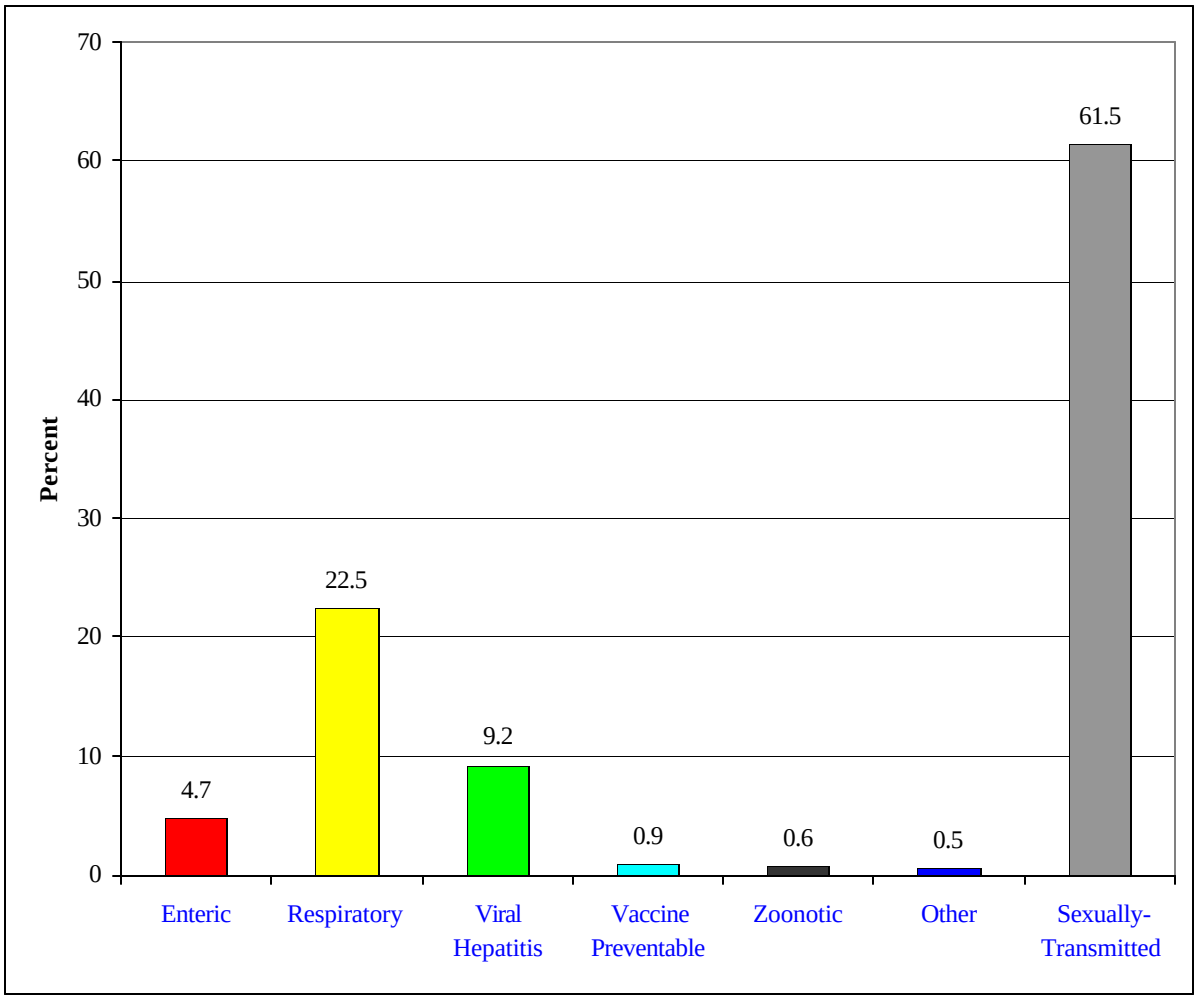
-- Indicates no reported confirmed or probable case(s) in this socio-demographic category.

Section III: Distribution of Reported Cases, by Disease Category*

Excluding the 'Animal Bite' classification; sexually-transmitted diseases **– excluding HIV –** comprised the largest percentage of cases (61.5%) reported as of July 3, 2004 (Report Week #26) **(Figure 1)**.* Respiratory diseases comprised the next largest percentage of cases (22.5%), followed by viral hepatitis (9.2%) and enteric diseases (4.7%). The remaining disease categories (i.e., vaccine preventable, zoonotic, and other disease) comprised less than 1% each of the total number of reported cases.

***** *Data for sexually transmitted diseases (STD) are through May 30, 2004. Additionally, all 2004 communicable disease data presented in this section are provisional.*

Figure 1. Percentage of Reportable Diseases and/or Conditions in Missouri **– excluding HIV –** as of July 3, 2004 (Report Week #26) – by Disease Category.*



Section IV: Links to other Communicable Disease Surveillance Unit Reports*

Other Communicable Disease Surveillance Unit Reports

Report Title	Report Interval	Report Web Location
Summary of Notifiable Diseases in Missouri	annual	http://www.dhss.mo.gov/CommunicableDisease/Reports.html
Previous Communicable Disease Newsletters	monthly	http://www.dhss.mo.gov/CommunicableDisease/Reports.html
Rabies Surveillance	monthly	http://www.dhss.mo.gov/Rabies/index.html
HIV/STD Statistical Reports	various	http://www.dhss.mo.gov/HIV_STD_AIDS/Data.html
Influenza Surveillance	weekly	http://www.dhss.mo.gov/Influenza/Reports.html

* To obtain additional information please contact the Office of Surveillance at (573) 752-9071.

Other Communicable Disease Resources

Resource Title	Resource Web Location
List of Diseases and Conditions Reportable in Missouri	http://www.dhss.mo.gov/CommunicableDisease/reportablediseaselist2.pdf
MDHSS Disease Case Report (CD-1)	http://www.dhss.mo.gov/CDManual/CDappends.pdf
Communicable Disease Investigation Reference Manual	http://www.dhss.mo.gov/CDManual/CDManual.htm
Missouri Information for Community Assessment	http://www.dhss.mo.gov/MICA/nojava.html

Section III: Distribution of Reported Cases, by Disease Category:

Enteric

NUMBER OF REPORTED CASES AS OF JULY 3, 2004	
ENTERIC DISEASES	
Acute Gastrointestinal Illness	5
Botulism, Infant	1
Campylobacteriosis	275
Cryptosporidiosis	23
Cyclosporiasis	2
Escherichia Coli O157 H7	23
Escherichia Coli Shiga Toxin	7
Escherichia Coli Shiga Toxin (not SG)	5
Giardiasis	220
Hemolytic Uremic Sydrome	6
Salmonella	264
Shigellosis	73
Typhoid	1
Yersiniosis	10
TOTAL	**915**

Section III: Distribution of Reported Cases, by Disease Category:

Respiratory

NUMBER OF REPORTED CASES AS OF JULY 3, 2004	
RESPIRATORY DISEASES	
Adult Respiratory Distress Syndrome	1
Blastomycosis	1
Coccidioidomycosis	3
Influenza	4291
Legionellosis	7
Tuberculosis	59
TOTAL	**4362**

Section III: Distribution of Reported Cases, by Disease Category:

Viral Hepatitis

NUMBER OF REPORTED CASES AS OF JULY 3, 2004	
VIRAL HEPATITIS	
Hepatitis A	25
Acute Hepatitis B	124
Chronic Hepatitis B	91
Perinatal Hepatitis B	4
Acute Hepatitis C	140
Chronic Hepatitis C	1409
Hepatitis , other or unspecified	1
TOTAL	**1794**

Section III: Distribution of Reported Cases, by Disease Category:

Vaccine Preventable

NUMBER OF REPORTED CASES AS OF JULY 3, 2004	
VACCINE PREVENTABLE DISEASES	
Measles	1
Mumps	3
Pertussis	165
Rubella	1
TOTAL	**170**

Section III: Distribution of Reported Cases, by Disease Category:

Zoonotic

NUMBER OF REPORTED CASES AS OF JULY 3, 2004	
ZOONOTIC DISEASES	
Brucellosis	3
Ehrlichiosis HGE	8
Ehrlichiosis HME	9
Lyme	36
Malaria	6
Psittacosis	1
Q Fever	2
Rabies, animal	13
Rocky Mountain Spotted Fever	33
Tularemia	9
West Nile Virus Encephalitis/Meningitis	2
TOTAL	**122**

Section III: Distribution of Reported Cases, by Disease Category:

Other

NUMBER OF REPORTED CASES AS OF JULY 3, 2004	
OTHER DISEASES	
Aseptic and Bacterial Meningitis, other	14
Meningitis, other (fungal)	7
Meningicoccal Meningitis	8
Haemophilus Influenzae	15
Listeriosis	2
Streptococcal Disease, invasive Group A	41
Streptococcal Pneumonia	16
other	2
TOTAL	**105**

Section III: Distribution of Reported Cases, by Disease Category:

Sexually-Transmitted

NUMBER OF REPORTED CASES AS OF MAY 31, 2004	
SEXUALLY-TRANSMITTED DISEASES	
Chlamydia	8456
Gonorrhea	3422
Syphilis - Early	28
Syphilis - Latent and Duration Unknown	47
Syphilis - Congenital	1
TOTAL	**11954**